AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A method for treating an acute or chronic spinal cord lesion in a patient, comprising administering to the patient a composition comprising 3β-methoxy-pregna-5-ene-20-one (3-methoxy-PREG), 3β-methoxy-pregna-5-ene-20-one-17α-dichloromethyl, or ~~3β–methoxy-5α-pregnone-20-one~~ 3β–methoxy-5α-pregnan-20-one,

wherein the composition is administered to the patient in an amount effective to stimulate polymerization and/or stabilization of microtubules in the patient.

2. (Previously Presented) The method according to claim 1, wherein said acute or chronic spinal cord lesion is medullary compression.

3. (Previously presented) The method according to claim 1, wherein said composition also comprises an excipient that makes it possible to formulate the molecule derived from pregnenolone to cross the blood-brain barrier.

4. (Previously presented) The method according to claim 1, wherein said composition is administered by injection.

5. (Previously presented) The method according to claim 1, wherein said composition is administered orally.

6. (Previously Presented) The method according to claim 1, wherein said molecule of formula I is 3-methoxy-PREG.

7. (Withdrawn) The method according to claim 1, wherein said molecule of formula I is 3β-methoxy-pregna-5-ene-20-one-17α-dichloromethyl.

8. (Previously Presented) The method according to claim 1, wherein said composition comprises a quantity of 3-methoxy-PREG ranging between 50 and 2500 mg.

9-10. (Cancelled)

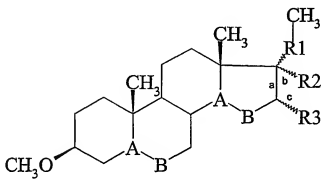
11. (Withdrawn) An *in vitro* method for increasing the stabilization and/or inducing the polymerization of the microtubules in a cell, comprising the step of exposing the aforementioned cell to the presence of 3-methoxy-pregnenolone at a concentration of approximately 0.5 to 50 µmol.

12. (Withdrawn) An *in vitro* method for increasing neuritic sprouting in a cell, comprising the step of exposing the aforementioned cell to the presence of 3-methoxy-pregnenolone at a concentration of approximately 0.5 to 50 µmol.

13. (Cancelled)

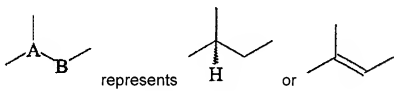
14. (Previously Presented) A method for treating an acute or chronic spinal cord lesion in a patient, comprising administering to the patient a composition comprising 3β-methoxy-pregna-5-ene-20-one (3-methoxy-PREG), or a molecule derived from pregnenolone that contains a 3-methoxy function and is incapable of being converted into a metabolite or

ester sulfate of pregnenolone, wherein said molecule derived from pregnenolone is of formula I:



(I)

in which:

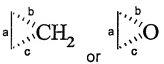


R1 = –CO–; –CH(OH)– or –CH(O-COCH$_3$)–

R2 = H or $CHCl_2$,

R3 = H or CH_3, or

R2 and R3 together form a ring:



wherein the composition is administered to the patient in an amount effective to stimulate polymerization and/or stabilization of microtubules in the patient.

15. (Previously Presented) The method according to claim 14, wherein said composition also comprises an excipient that makes it possible to formulate the molecule derived from pregnenolone to cross the blood-brain barrier.

16. (Previously Presented) The method according to claim 14, wherein said composition is administered by injection.

17. (Previously Presented) The method according to claim 14, wherein said composition is administered orally.

18. (Previously Presented) The method according to claim 14, wherein said composition comprises a quantity of 3-methoxy-PREG or of said molecule of formula I ranging between 50 and 2500 mg.

19. (Previously Presented) A method for treating Alzheimer's disease in a patient, comprising administering to the patient a composition comprising 3β-methoxy-pregna-5-ene-20-one (3-methoxy-PREG),

wherein the composition is administered to the patient in an amount effective to stimulate polymerization and/or stabilization of microtubules in the patient.

20. (Previously Presented) The method according to claim 19, wherein said composition also comprises an excipient that makes it possible to formulate the molecule derived from pregnenolone to cross the blood-brain barrier.

21. (Previously Presented) The method according to claim 19, wherein said composition is administered by injection.

22. (Previously Presented) The method according to claim 19, wherein said composition is administered orally.

23. (Previously Presented) The method according to claim 19, wherein said composition comprises a quantity of 3-methoxy-PREG ranging between 50 and 2500 mg.

24. (Previously Presented) A method for treating Alzheimer's disease in a patient, comprising administering to the patient a composition comprising 3β-methoxy-pregna-5-ene-20-one (3-methoxy-PREG), 3β-methoxy-pregna-5-ene-20-one-17α-dichloromethyl, or 3β–methoxy-5α-pregnone-20-one,

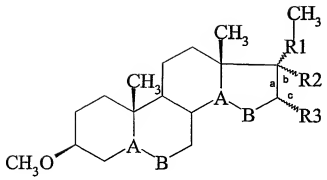
wherein the composition is administered to the patient in an amount effective to stimulate polymerization and/or stabilization of microtubules in the patient.

25. (Previously Presented) The method according to claim 24, wherein said composition also comprises an excipient that makes it possible to formulate the molecule derived from pregnenolone to cross the blood-brain barrier.

26. (Previously Presented) The method according to claim 24, wherein said composition is administered by injection.

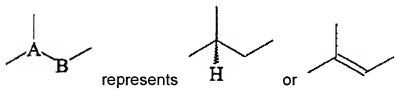
27. (Previously Presented) The method according to claim 24, wherein said composition is administered orally.

28. (Previously Presented) A method for treating Alzheimer's disease in a patient, comprising administering to the patient a composition comprising 3β-methoxy-pregna-5-ene-20-one (3-methoxy-PREG), or a molecule derived from pregnenolone that contains a 3-methoxy function and is incapable of being converted into a metabolite or ester sulfate of pregnenolone, wherein said molecule derived from pregnenolone is of formula I:



(I)

in which:



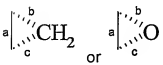
represents or

R1 = –CO–; –CH(OH)– or –CH(O-$COCH_3$)–

R2 = H or $CHCl_2$,

R3 = H or CH_3, or

R2 and R3 together form a ring:



wherein the composition is administered to the patient in an amount effective to stimulate polymerization and/or stabilization of microtubules in the patient.

29. (Previously Presented) method according to claim 28, wherein said composition also comprises an excipient that makes it possible to formulate the molecule derived from pregnenolone to cross the blood-brain barrier.

30. (Previously Presented) The method according to claim 28, wherein said composition is administered by injection.

31. (Previously Presented) The method according to claim 28, wherein said composition is administered orally.